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**Remarks**

After the entry of the above amendments, claims 1-3, 5-12 and 15-43 will be pending. Favorable reconsideration is requested.

**Preliminary Matter Regarding Supplemental Information Disclosure Statement (IDS)**

Based on the copies of the two IDS forms enclosed with the Office Action, it appears that a supplemental IDS submitted by Applicant on 4/29/04 may have not been considered by the Examiner. A copy of the subject IDS is attached to this communication. If this IDS never reached the Examiner's file, please advise and Applicant can re-send copies of the documents listed in the IDS. The supplemental IDS was mailed within three months of receipt in connection with a foreign counterpart application and almost two months prior to the mailing of the subject Office Action. Hence, it should have been received in time for consideration in the first Office Action.

**Claim Rejections - 35 U.S.C. §103**

MPEP §706.02(j) states: "To establish a prima facie case of obviousness, three basic criteria must be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings. Second, there must be a reasonable expectation of success. Finally, the prior art reference (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art and not based on applicant's disclosure. In re Vaack, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991)."

MPEP §2143.01 states: "Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. The test

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for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved, as a whole would have suggested to those of ordinary skill in the art. In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also In re Fine, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); In re Jones, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992)."

The Examiner rejected all claims under 35 U.S.C. 103 as being obvious. Applied references Lin et al. (U.S. Patent 5,256,869) and Kanterakis et al. (U.S. Patent 6,008,918) were cited as supporting the rejection of all claims with additional references combined to support the rejection of to certain claims. The references relevant to the current claims are discussed below. Applicants respectfully submit that the applied references, with or without modification or combination, assuming, *arguendo*, that the modification or combination of the applied references is proper, does not teach or suggest the claimed invention, as further discussed below. Applicant respectfully traverses the rejections and seeks withdrawal of the rejections resulting in allowance of the application.

Claim 1 is directed to a system that provides internal communication in a stored program control system having a plurality of processing units. A free space beam line contains optically encoded signals transmitted to the processing units. An elongated conduit encloses the free space beam line. Means associated with the processing units are provided for injecting optically encoded signals into the beam line. Means associated with the processing units are provided for receiving optically encoded signals from the beam line. The receiving means includes receivers disposed within the conduit in a helical pattern extending outward from an axis of the elongated conduit and are oriented to receive portions of the free space beam line parallel to the axis.

In the Office Action, Danielsson (U.S. Patent 6,240, 157) was combined with the primary references in rejecting claim 4 and is relied upon to supply a teaching relating to helically arranged light signal detectors. Danielsson is directed to medical tomography imaging. Figure 1, and column 1, line 17-21 of this reference were cited in the Office Action as disclosing a "helically receiving light signals detector (16) (receiving means)". According to the relied upon text, a point x-ray source S is mounted on a wall of the cylinder 12 and the helical trajectory

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shown in figure 1 is achieved by translating the patient through the rotating source-detector gantry at a constant speed. The detector 16 consists of sensors disposed in a helical arrangement on the surface of cylinder 12. Thus, it is clear that the sensors as taught in Danielsson are disposed on the surface of the cylinder and are oriented to sense x-rays transmitted substantially transverse to the axis of the cylinder.

First, Danielsson is directed to medical tomography that utilizes x-rays. One of ordinary skill of the art would not be led to consider combining the teachings of this reference with the primary references since Danielsson is not directed to an internal communication system. It is well known that apparatus which utilize x-rays require shielding and are not suitable for general communication devices due to the danger associated with the generation of x-rays. Therefore, one of ordinary skill in the art would not be led to consider such a combination.

Further, Danielsson is not directed to an arrangement of receivers disposed internally within the cylinder. In accordance with claim 1, receivers extend in a helical pattern radially outward from the axis of the conduit, are disposed within the interior of the conduit, and are oriented to receive portions of the free space beam line that is parallel to the axis of the conduit. None of these requirements are taught or suggested by Danielsson. Thus, assuming *arguendo* that the teachings of Danielsson could be properly considered for combination with the parent references, such a combination would still not satisfy the limitations and requirements of claim 1.

Independent method claim 36 contains similar limitations to those discussed above with regard to apparatus claim 1. Claim 36 is believed to be allowable for reasons discussed above with regard to claim 1.

In the Office Action, Willebrand was cited as providing a teaching relating to a free space beam line being disposed in a conduit as per a limitation of claim 13. Figure 12 and column 1, lines 50-53 of Willebrand was referenced to support the required limitation. Applicant respectfully traverses this conclusion. Figure 12 is a view of a transceiver that is utilized to receive and transmit light beams, and is more specifically shown in figures 13-14. Except for enclosing a very small portion of a light beam at the point of termination (reception) or the point of

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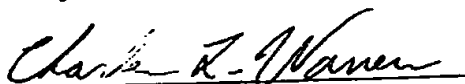
origination (transmission), the transceiver does not generally enclose the light beam which is utilized to carry information between the transceiver and other locations/transceivers. The text at column 1, lines 50-53 describes the background of the invention. The only reference to "conduits" in this section occurs in a discussion of the use of wire conductors in which is said: "Some metropolitan areas simply have no available space to accommodate the additional conductors within utility conduits, and gaining access to buildings and right-of-way to install the conductors ...." Therefore, it is clear that this reference does not provide a teaching which suggests that a free space beam line be enclosed within a conduit. Even considering the teachings of Willebrand with the other references with regard to the currently pending claim 1, the requirement of an elongated conduit enclosing the free space beam line is not disclosed. Thus, claim 1 is not rendered obvious.

Independent method claim 36 is likewise not rendered obvious for similar reasons.

New dependent claims 42-43 explicitly define that the conduit encloses the entirety of the free space beam line. For reasons explained above, it is believed that this limitation is not taught by the applied references.

In view of the above amendments and remarks, allowance of all claims pending is respectfully requested. If a telephone conference would be of assistance in advancing the prosecution of this application, the Examiner is invited to call applicants' attorney.

Respectfully submitted,



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